PNEUMOTACH AIRFLOW TRANSDUCERS

- TSD137 SERIES FOR MP160/MP150 SYSTEM
- SS46L-SS52L SERIES FOR MP3X AND MP45 SYSTEM
- RX137 SERIES REPLACEMENT FLOW HEADS

The TSD137/SS46L-SS52L series pneumotachs can be used to perform a variety of small animal and human pulmonary measurements relating to airflow, lung volume and expired gas analysis. These pneumotach transducers consist of a low flow, pneumotach airflow head (RX137B through RX137H and SS46L through SS52L) coupled to a precision, highly sensitive, differential pressure transducer (TSD160A or SS40L) via RX137 tubing. The pneumotachs will connect directly to a breathing circuit or plethysmogram chamber. For airflow and lung volume measurements, connect a short airflow cannula to the RX137 series flow head. All pneumotachs are equipped with an internal heating element and AC137A 6-volt power supply.

MRI Use (TSD137): MR Conditional

Condition: Tested to 3T: Contains ferrous material – must be clamped down in the safe MRI operating area.

Components: Brass, stainless steel, copper

See also: DA100C Calibration options.

RX137 Series Replacement Airflow Heads (SHOWN ABOVE)

For TSD137 & SS46L-SS52L Series Pneumotachs

The RX137 series are airflow heads for the TSD137 and SS46L-52L series pneumotach transducers. The RX137 heads can be mixed and matched with any of the TSD137 and SS46L-SS52L series pneumotachs. Switching one head for another when using a single pneumotach can accommodate a wide range in flows. RX137 heads connect to the TSD160A or SS40L differential pressure transducer via standard 3 mm or 4 mm ID tubing. Multiple RX137 heads help eliminate equipment downtime during cleaning procedures.

Pneumotach Airflow Transducer Calibration

Connect tubing between the calibration syringe and the transducer, then follow the procedure for TSD117/SS11LA but move the calibration syringe plunger at a reduced velocity due to the very high sensitivity to flow of the TSD137/SS46L-SS52L series. Each of the TSD137/SS46L-SS52L series is factory calibrated to a known flow level, as indicated on the transducer.

Flow Head Cleaning & Disinfection

IMPORTANT:

- RX137 series airflow heads are manufactured with a very thin layer of synthetic resin, so they should **never** be cleaned with an organic solvent. We recommend cleaners such as Hydro-Merfen at the concentration used for medical material, or Gluterex.
- Before using the airflow head, be sure it is dry.
- Never heat the airflow head higher than 50 C.
    1. Submerge the airflow head in a disinfectant solution for approximately one hour.
    2. Rinse the airflow head with distilled or de-mineralized water.
    3. Use compressed air or another compressed gas [pressure up to 5 kg / cm2 (5 bar)] to drive any remaining water out of the airflow head.
    4. Allow the airflow head to dry completely in ambient air (or continue using compressed air if time requires it).

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TSD/RX137 & SS46L-SS52L Series Specifications

Part# *DA100C* *TSD160/SS40L* *MP36/35/30/45*	**TSD137B RX137B1 SS46L**	**TSD137C RX137C1 SS47L**	**TSD137D RX137D1 SS48L**	**TSD137E RX137E1 SS49L**	**TSD137F RX137F1 SS50L**	**TSD137G RX137G1 SS51L**	**TSD137H RX137H1 SS52L**
Range (ml/sec):	±50	±83	±167	±583	±1667	±2667	±13333
Dead Space (cc):	0.8	0.9	2.0	4.0	18.15	13.87	80.0
Nominal Output (µV [ml/sec]):	15.40	5.78	2.10	0.924	1.155	0.4815	0.1925
Flow Ports ID/OD (mm):	2.4 - 3.9	3.76 - 5.2	6.4 - 7.9	9.5 - 15.0	19.0 - 22.0	Port 1: 15.0 - 22.0 Port 2: 13.2 - 15.0	28.6 - 35.0
RX Head Length (mm):	75	75	75	60	60	60	60
RX Head Weight (grams):	90	90	100	60	100	150	250
Approx. Size:	Mouse	Rat/Guinea Pig	Cat/Rabbit	Small Dog	Medium Dog	Large Dog	Adult Human
Approx. Weight:	50 g	350 g	750 g	5.5 kg	15 kg	25 kg	--
Nominal Output:	TSD137B, C, H = normalized to 1 V excitation TSD137D, E, F, G & SS46L-52L = normalized to 5 V excitation						
Tubing Length:	1.8 m *(to TSD160A/SS40L)*						